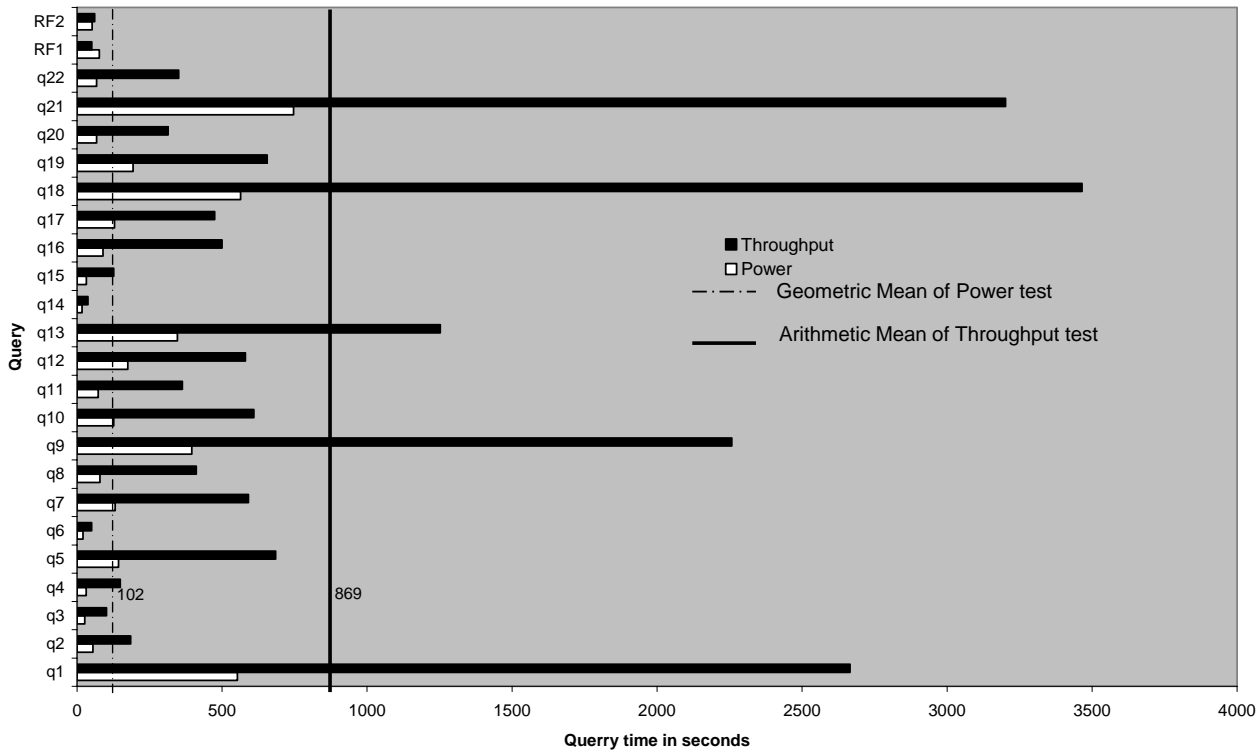
	<b>DELL</b> <b>PowerEdge 6600</b> <b>with Oracle Database 10g R2</b>	<b>TPC-H Revision 2.1.0</b>
		<b>Report Date:</b> <b>July 08, 2005</b>
<b>Total System Cost</b> <b>\$254,839</b>	<b>TPC-H Composite Query per Hour</b> <b>8,604.7 QphH@300GB</b>	<b>Price/Performance</b> <b>\$30/QphH@300GB</b>
<b>Database Size</b> <b>300GB</b>	<b>Database Manager</b> Oracle Database 10g Release 2 Enterprise Edition with RAC and Partitioning	<b>Operating System</b> Red Hat Enterprise Linux Advanced Server v3.0
<b>Other Software</b>		<b>Availability Date</b> <b>January 08, 2006</b>



<b>Database Load Time</b> 4:49:18	<b>Total Disk/Database Size</b> 9.45	<b>Load Includes Backup</b> N
<b>RAID (Base tables only)</b> N	<b>RAID (Base tables and auxiliary data structures)</b> N	<b>RAID (Everything)</b> Y

**System Configuration :** 2 nodes  
**Processors (per node) :** 4x 3.0GHz/512kB L2/4MB L3 Intel Xeon MP  
**Memory: (per node) :** 16GB RAM  
**Disk Drives:** 4 – 36GB 15k HDD  
160 – 18GB 15k HDD

“Database Size includes only raw data (e.g., no temp, index, redundant storage space, etc).”

Dell	PowerEdge 6600		TPC-H EXECUTIVE SUMMARY PAGE 2 OF 4				
			Client/Server		Report Date: 08-July-05		
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
<b>Server Hardware</b>							
<b>Brand Pricing</b>							
Dell PowerEdge 6600	220-4646	1	5,082	2	10,164	3,566	
Intel Xeon MP 3.0GHz / 4MB L2 - 4 processors	311-3526	1	11,999	2	23,998	-	
16 GB,DDR	311-3851	1	6,668	2	13,336	-	
36 GB U320M SCSI 15K RPM Hard Drive	340-1897	1	249	4	996	-	
Dual on-board NICs	430-8991	1	0	0	-	-	
Cross-over cable	43-425	3	2	3	5	-	
Dell 15" Monitor	320-2907	1	135	2	270	-	
PERC3-DC 128MB U320 SCSI RAID controller	340-8157	1	799	16	12,784	0	
<b>Subtotal</b>					<b>61,553</b>	<b>3,566</b>	
<b>PowerVault Disk Subsystem</b>							
PV220S, U3 SCSI, PS, Rack mount	220-4476, etc.	1	1,668	16	26,688	7,984	
2x4M,PERC/39160 SCSI Cables	310-0679	1	99	16	1,584	-	
18 GB SCSI 15K RPM Hard Drive *	340-9472	1	249	160	39,840	-	
42U Rack	220-4492	1	964	2	1,928	-	
<b>Subtotal</b>					<b>70,040</b>	<b>7,984</b>	
<b>Server Software</b>							
Oracle Database 10g Release 2, Ent. Ed., Named User Plus, 3 yrs		2	10,000	8	80,000		
Partitioning , Named User Plus, 3yrs		2	2,500	8	20,000		
Real Application Clusters, Named User Plus, 3yrs		2	5,000	8	40,000		
Oracle Database Server Support Package, 3yrs		2	4,000	3	12000	0	
Oracle Mandatory E-Business Discount		2			(\$22,800)	0	
Red Hat Enterprise Linux Advanced Server, 3yrs SUB NFI	420-4250	1	2,699	2	5,398	0	
<b>Subtotal</b>					<b>134,598</b>	<b>0</b>	
<b>Other Discounts</b>					<b>(22,902)</b>	<b>-</b>	
<b>Total</b>					<b>243,289</b>	<b>11,550</b>	
Notes: * Maint. included in PowerVault 220S disk pod or PV650F/630F fibre channel disk pod *** 10% or minimum 2 spares are added in place of onsite service (products have a three year return-to-vendor warranty) Pricing: 1 - Dell 2 - Oracle 3 - Fastcomputerparts.com **** Discount based upon total system cost as purchased by a regular customer. Pricing may be verified by calling 1-800-BUY-DELL referencing quote numbers 230415140 as complex quotes. <b>Audited by Lorna Livingtree, Performance Metrics Inc.</b>					<b>Three-Year Cost of Ownership: \$254,839</b>		
					<b>QphH Rating: 8604.70</b>		
					<b>\$/ QphH: 30</b>		
<i>Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated discounts are not permitted. Special prices based on assumptions about past or future purchases are not permitted. All discounts reflect standard pricing policies</i>							



DELL  
PowerEdge 6600 w/  
Oracle 10g R2 / RHEL v3.0

TPC-H Revision 2.1.0

Report Date:  
July 08, 2005

## Numerical Quantities Summary

### Measurement Results:

Database Scale Factor	300
Total Data Storage/Database Size	9.45
Start of Database Load	03/11/2005 00:49:30
End of Database Load	03/11/2005 05:38:48
Database Load Time	4:49:18
Query Streams for Throughput Test	6
TPC-H Power	10578.4
TPC-H Throughput	6999.2
TPC-H Composite Query-per-Hour Metric (QpH@300GB)	8604.7
Total System Price Over 3 Years	\$254,839
TPC-H Price Performance Metric (\$/QpH@300GB)	\$30

### Measurement Interval:

Measurement Interval in Throughput Test (Ts) = 20,368.3 seconds

### Duration of stream execution:

	Seed	Start Date/Time	End Date/Time	Duration
Stream00	311053803	3/11/2005 10:11:45	3/11/2005 11:19:28	1:07:43
Stream01	311053804	3/11/2005 11:20:25	3/11/2005 16:44:57	5:24:32
Stream02	311053805	3/11/2005 11:20:25	3/11/2005 16:48:40	5:28:15
Stream03	311053806	3/11/2005 11:20:25	3/11/2005 16:38:36	5:18:11
Stream04	311053807	3/11/2005 11:20:25	3/11/2005 16:24:21	5:03:56
Stream05	311053808	3/11/2005 11:20:25	3/11/2005 16:39:23	5:18:58
Stream06	311053809	3/11/2005 11:20:25	3/11/2005 16:29:05	5:08:40
Refresh00		3/11/2005 10:10:28	3/11/2005 10:11:45	0:01:17
		3/11/2005 11:19:28	3/11/2005 11:20:20	0:00:52
Refresh01		3/11/2005 16:48:40	3/11/2005 16:50:29	0:01:49
Refresh02		3/11/2005 16:50:29	3/11/2005 16:52:43	0:02:14
Refresh03		3/11/2005 16:52:43	3/11/2005 16:54:27	0:01:44
Refresh04		3/11/2005 16:54:27	3/11/2005 16:56:23	0:01:56
Refresh05		3/11/2005 16:56:23	3/11/2005 16:58:07	0:01:44
Refresh06		3/11/2005 16:58:07	3/11/2005 16:59:53	0:01:46



## Numerical Quantities Summary

### Timing Intervals in Seconds:

Query	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Stream00	552.3	54.8	26.5	31.7	142.9	20.1	131.8	79.1
Stream01	2193.6	232.2	116.9	40.9	756.5	34.0	466.3	374.2
Stream02	3377.8	144.6	68.0	182.3	533.3	94.8	517.4	319.7
Stream03	2230.2	214.9	88.4	145.4	851.7	38.5	535.0	537.2
Stream04	3266.1	174.5	109.6	176.9	535.8	32.2	566.7	334.3
Stream05	2692.6	124.0	88.4	222.5	728.2	69.6	549.1	439.9
Stream06	2231.3	218.3	138.3	124.2	702.2	33.4	910.8	462.5
Min Qi	2193.6	124.0	68.0	40.9	533.3	32.2	466.3	319.7
Max Qi	3377.8	232.2	138.3	222.5	851.7	94.8	910.8	537.2
Avg Qi	2665.3	184.7	101.6	148.7	684.6	50.4	590.9	411.3
Query	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Stream00	395.5	126.2	73.2	175.4	346.1	17.5	32.2	89.7
Stream01	2429.3	590.9	424.2	803.2	1341.1	39.4	124.1	366.1
Stream02	2570.4	728.5	230.6	395.5	1128.5	34.4	94.6	664.6
Stream03	2110.8	506.3	316.4	401.9	1336.7	36.5	117.5	422.9
Stream04	2204.8	780.1	379.3	509.1	1250.6	31.4	98.9	390.3
Stream05	2230.2	796.8	368.2	651.2	1104.9	36.8	140.7	572.5
Stream06	2002.5	256.4	458.2	720.4	1354.5	45.2	181.7	582.7
Min Qi	2002.5	256.4	230.6	395.5	1104.9	31.4	94.6	366.1
Max Qi	2570.4	796.8	458.2	803.2	1354.5	45.2	181.7	664.6
Avg Qi	2258.0	609.8	362.8	580.2	1252.7	37.3	126.2	499.8
Query	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream00	129.2	563.6	193.3	67.5	746.7	68.0	76.9	51.8
Stream01	332.6	2930.6	378.1	300.9	4809.8	387.6	58.2	50.6
Stream02	1109.2	4755.4	1002.5	293.1	1137.0	313.2	51.7	82.6
Stream03	408.4	3315.0	1066.8	356.6	3715.0	339.9	47.8	55.6
Stream04	380.8	3050.9	414.4	291.7	2871.2	387.2	50.7	65.2
Stream05	368.1	2895.6	524.9	332.0	3840.8	361.3	48.3	56.4
Stream06	247.9	3844.9	545.1	311.5	2834.9	313.2	50.4	55.4
Min Qi	247.9	2895.6	378.1	291.7	1137.0	313.2	47.8	50.6
Max Qi	1109.2	4755.4	1066.8	356.6	4809.8	387.6	58.2	82.6
Avg Qi	474.5	3465.4	655.3	314.3	3201.4	350.4	51.2	61.0